AIR DRY PAINT (SMOOTH) FOR PLASTIC SUBSTRATES

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1 PURPOSE

This specification is intended to allow the use of a compliant paint with regard to current environmental regulations and shall permit the use of low temperature waterborne paint on plastic substrates.

2 DESCRIPTION

A smooth coat of paint shall be applied over plated or nonplated plastic material, with or without a molded-in texture, to impart color and UV color stability, and to cover some of the base material's imperfections. In the case of a molded-in texture, the paint shall not level or smooth the texture created by the substrate.

Visually this finish is the same as Finish Specification 092-A10X-XXX, *Smooth Paint Finish.*

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APPROVAL:

Art Clockedile, Systems Materials Engineering

3 APPEARANCE QUALITY

Unless otherwise specified, this finish shall meet a quality level of 4, per *DEC STD 092-1 Finish and Color Standard - Finish Standard for Applicators*. When viewed from the specified distance under normal artificial lighting, the finish shall exhibit no gross imperfections or differences in texture, color, or gloss on a continuous surface that would cause the viewer to immediately focus on the effected area.

On painted textured surfaces, no sanding or grind marks are permissible on the external surfaces.

Regardless of appearance at the specified viewing distance, no gross imperfections (such as gouges, large chips, blisters, checking, oil spots, flaking) or defects are allowed that will affect the functional properties of the part or finish.

Color will be as stated in the Finish Specification Number and shall match the appropriate control standard supplied by Digital.

Texture of the finished parts shall match the appropriate control standard supplied by Digital.

Finish gloss for painted molded parts shall be controlled by the ASTM 523-66T *60-Degree Specular Gloss Test*, and the measurements shall be taken on a smooth surface.

Touch-up areas shall be blended into the surrounding area to reduce the difference in height, color, and gloss.

Demarcation lines (paint mark lines on painted parts where two or more colors interface) should be relatively straight. Minor jaggedness, ± 1/32 inch over 10 linear inches, is allowable.

4 PHYSICAL REQUIREMENTS

Digital approved paint materials shall be used and shall meet those requirements of Tables 1, 2, and 3 of *DEC STD 092-3 Finish and Color Standard - Finish Material Test Requirements*, that apply to air dry lowcure waterborne paint on plastic.

a. Base material preparation:
Surface preparation shall be in accordance with Finish Specification 092-A40X-XXX.

b. Film thickness:
Minimum thickness requirements: .001 ± .0003 inch

Film thickness will be somewhat dictated by the type of texture being covered, however, a minimum thickness shall be maintained to obtain acceptable physical properties.

5 QUALITY OF COATING

Adhesion requirements:

a. Using the cross cut method, per ASTM D3359, Method B, a rating of 4 or better shall be considered acceptable.

b. Scotch Brand #600 tape, 1 inch wide, shall be applied with uniform pressure. Within 90 ± 30 seconds of application the tape shall be removed in a quick motion at 90 degrees to the surface. For acceptance, the finish shall remain unbroken after the tape is removed.

6 PACKAGING/STORAGE/HANDLING

Before, during, and after painting, the parts shall not be subjected to any hostile environments that may affect the appearance or function of the coating. The painted parts shall also be packaged to protect the parts and their finish during normal handling operations, transportation, and storage.

7 GENERAL REQUIREMENTS

Unless otherwise specified, nonvisible internal surfaces do not need to be painted and shall be identified by the responsible Digital engineering group.

Overspray on nonvisible, nonpainted surfaces may be acceptable provided it is agreed upon by the responsible Digital engineering group, and does not interfere with any other functional requirement, such as electrical contact when a plastic part is metallized.

The use of organic primers is acceptable providing it does not conflict with any other requirement within this document, and unless otherwise specified.

Heating up to 150°F can be used to force-dry the coating, if this temperature will not affect the mechanical properties of the substrate.